



**Town of Candia**  
LAND USE OFFICE  
74 High Street  
Candia, New Hampshire 03034  
(603) 483-8588

**ZONING BOARD OF ADJUSTMENT  
OFFICIAL NOTICE OF DECISION**

The **ZONING BOARD OF ADJUSTMENT** at its June 25, 2024, meeting made the following decision regarding a request for a variance, as provided in Section 2.02B, which prohibits the expansion of a non-conforming use at High Street: Zoning Board Case #24-001.

**APPLICANT:** Candia Tank Farm, LLC, 6 Hillside Avenue, Amherst, NH 03031

**PROPERTY OWNER(S):** Candia Tank Farm, LLC, 6 Hillside Avenue, Amherst, NH 03031

**PROJECT LOCATION:** 5 High Street, Candia, NH 03034; Map 406 Lot 201

**TAX MAP:** Map 406 **LOT NUMBER** 201

**TITLE ON PLAN:** Concept Plan

**PLAN PREPARED BY:** Fieldstone Land Consultants, LLC, 206 Elm Street, Milford, NH 03055 (603) 672-5456

**DECISION:** Denied.

**FINDINGS OF FACT:**

1. Section 5.02: (c-7) of the Candia Zoning Ordinance specifically prohibits the storage of fuel oil in this zone.

- 2. The site is in the center of Candia in an area known as “The Four Corners”. There are several small businesses near the site. All of the town’s important infrastructure is in close proximity to this site. The nearest residential building is 400’ from the site. There are also small apartment buildings. The site is 400’ from the Candia Fire Department, 700’ from the Moore School, 1500’ from Smyth Library, 1710’ from Town Hall, 680’ from the Historical Society, 1360’ from the Post Office and County Courthouse.
- 3. Applicant states: “The fuel oil poses no threat to public safety as we discussed at last meeting.” Safety data sheets provided by the applicant titled, “SAFETY DATA SHEET No. 2 Fuel Oil”, and “SAFETY DATA SHEET Diesel Fuel”, contradict that statement. Safety data sheets attached.
- 4. The potential exists for a leak or fire that would threaten the health and safety of the general public as evidenced by reports and testimony from Candia’s Town Engineer at Stantec and Bob Panit, Candia Emergency Management Director.
- 5. There is nothing that distinguishes this property from any other property so zoned.

With respect to the five variance criteria, the Board reviewed, evaluated, and voted on the five variance criteria as follows:

**1. The variance will be contrary to the public interest**

*For a variance to be contrary to the public interest, it must unduly and to a marked degree violate the basic objectives of the zoning ordinance. To determine this, does the variance alter the essential character of the neighborhood or threaten the health, safety, or general welfare of the public?*

- R. Howe: Yay.
- B. Keena: Yay.
- G. Pellegrino: Yay.
- T. Steinmetz: Yay.
- J. Szot: Yay.

**2. The spirit of the ordinance is observed**

*To be contrary to the public interest, the variance must unduly, and in a marked degree conflict with the ordinance such that it violates the ordinance's basic zoning objectives.*

- R. Howe: Nay.
- B. Keena: Nay.

G. Pellegrino: Nay.

T. Steinmetz: Nay.

J. Szot: Nay.

**3. Substantial justice is done.**

*Perhaps the only guiding rule is that any loss to an individual that is not outweighed by a gain to the general public is an injustice. A board of adjustment cannot alleviate an injustice by granting an illegal variance.*

R. Howe: Nay.

G. Pellegrino: Nay.

B. Keena: Nay.

T. Steinmetz: Nay.

J. Szot: Nay.

**4. The values of surrounding properties are not diminished.**

*The ZBA members may draw upon their own knowledge of the area involved in reaching a decision on this and other issues. Because of this, the ZBA does not have to accept the conclusions of experts on the question of value, or on any other point, since the function of the board is to decide how much weight, or credibility, to give testimony or opinions of witnesses, including expert witnesses.*

R. Howe: Nay.

G. Pellegrino: Nay.

B. Keena: Nay.

T. Steinmetz: Nay.

J. Szot: Nay.

**5. Literal enforcement of the provisions of the ordinance would result in unnecessary hardship.**

*When the hardship so imposed is shared equally by all property owners, no grounds for a variance exist. Only when some characteristic of the particular land*

*in question makes it different from others can unnecessary hardship be claimed. The property owner needs to establish that, because of special conditions of the property, the application of the ordinance provision to his property would not advance the purposes of the ordinance provision in a "fair and substantial" way.*

R. Howe: Nay.

B. Keena: Nay.

T. Steinmetz: Nay.

J. Szot: Nay.

G. Pellegrino: Nay.

For further information regarding this decision, contact Town of Candia Land Use Office (603) 483- 8588.

  
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Judith Szot, Chairman  
Candia Planning Board

Date July 2, 2024





Stantec Consulting Services Inc.  
5 Dartmouth Drive Suite 200, Auburn NH 03032-3984

April 29, 2024  
File: 195113534

**Attention: Ms. Judith Szot, Chair**  
Candia Zoning Board  
74 High Street  
Candia, NH 03034

Dear Ms. Szot,

**Reference: Candia Tank Farm 5 High Street – ZBA Application Review#3**  
**Candia Tax Map 406 Lot 201, Zoning Board Case#24-01**

In accordance with the request of the Town of Candia, NH Land Use Office we have reviewed the following information, received by email on April 19, 2024, by Devine Millimet Attorneys at Law, for the referenced proposed Zoning Board Application:

- Applicants Response to Stantec Review and ZBA Request, prepared by Devine Millimet Attorneys at Law and Fieldstone Land Consultants, PLLC, 95-page response, dated March 21, 2024 and received by email on the same day
- Continuance – Variance Application of Candia Tank Farm, LLC, dated April 18, 2024 and received by email, by Devine Millimet Attorneys at Law

The project submission was reviewed for conformance with the Town of Candia Zoning Ordinances (Ordinances), as well as other applicable codes and standards, state and local rules and regulations and accepted engineering practices.

Comments from our February 25, 2024 and March 25, 2024, review letters that have been addressed by the submitted revisions or additional information have been removed, comments that remain unresolved or that require a decision by the Board are indicated in *italics* and new comments based on the additional information provided are indicated in **bold**. We offer the following comments:

## **PROJECT DESCRIPTION**

The Application proposes the expansion of the existing fuel oil storage facility located at 5 High Street. The property is zoned as both Commercial (C) and Mixed Use (MX) zoning districts and was granted a variance for the existing fuel oil storage by the ZBA in 1992. The Application proposes to expand the existing facility by expansion of the fuel oil storage with additional fuel oil storage tanks.

The previously proposed two (2) 30,000-gallon propane tanks, one (1) future 30,000-gallon propane tank, and an accessory building for empty propane container storage have been removed from the original application in the most recent submittal.

April 29, 2024  
Ms. Judith Szot  
Page 2 of 3

Reference: Candia Tank Farm 5 High Street – ZBA Application Review#3  
Candia Tax Map 409 Lot 228

14. The Application describes six (6) legal criteria for authorizing a variance under RSA 674:33; based on the justifications described and the supporting information provided in the Application, we offer the following responses:

- b. Variance criteria#2 the Application documents that: 'the spirit of the ordinance will be observed', but no documentation or analysis has been submitted with the Application to support this statement. Typically, the intent of a zoning ordinance restricting combustible and flammable storage facilities from being located within the municipal zoning district is to minimize the potential environmental and life safety impacts within a more densely populated area, locations of municipal buildings, commercial businesses, and schools. We defer to the Board regarding the specific intent of this ordinance.

**Comment not addressed, during the last Zoning Board meeting the Board discussed the need for the applicant to demonstrate that the proposed expansion will be screened and proposed compatible with, and not deter from the surrounding properties; documentation confirming that the proposed improvements meets these criteria has not been submitted or provided to date.**

- d. Variance criteria#4 the Application documents that: 'the proposed use will not diminish the values of the surrounding properties'; however, no documentation or analysis has been provided with the Application to support this statement.

Comment partially addressed, the applicant has responded with a letter from a realtor from ten years ago, dated July 1, 2014, regarding property values and the impacts for tank farms. Additionally, home sale prices for properties within proximity of an existing fuel storage facility with comparisons to similar property sales within the same location in Massachusetts have been provided. The submitted documentation is both outdated and is not relevant to the proposed location. A study and statement for areas in New Hampshire with a current statement by a licensed real estate appraiser based on the current economic climate should confirm the statement being made regarding these criteria.

**Comment not addressed; no additional information has been provided confirming that the fuel oil facility storage expansion will not diminish the values of the surrounding properties. In conjunction with criteria#2 the proposed expansion and associated screening are pertinent/relevant to confirm that the proposed improvements will not diminish the values of surrounding properties.**

- e. Variance criteria#5 the Application documents that: the enforcement of the Ordinance results in an unnecessary hardship because the special condition of the property distinguishes it from other properties in the area'; we take exception to this statement because the Ordinance has established the same limitations to adjacent properties.

**Comment requires Board discussion; we defer to Town legal counsel on whether this criteria has been met.**

These comprise our comments at this time. We reserve the right to make future comments based on proposed revisions and additional submissions.

April 29, 2024

Ms. Judith Szot


Page 3 of 3

Reference: Candia Tank Farm 5 High Street – ZBA Application Review#3  
Candia Tax Map 409 Lot 228

If you have any questions or need any additional information, please feel free to contact us.

Respectfully,

Stantec Consulting Services Inc.



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Bryan Ruoff PE

Associate

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Fax: 603 669 7636

bryan.ruoff@stantec.com

Attachment: N/A

c. Candia Zoning Board  
Amy Spencer, Town of Candia





Stantec Consulting Services Inc.  
5 Dartmouth Drive Suite 200, Auburn NH 03032-3984

February 25, 2024  
File: 195113534

**Attention: Ms. Judith Szot, Chair**  
Candia Zoning Board  
74 High Street  
Candia, NH 03034

Dear Ms. Szot,

**Reference: Candia Tank Farm 5 High Street – ZBA Application Review#1**  
**Candia Tax Map 406 Lot 201, Zoning Board Case#24-01**

In accordance with the request of the Town of Candia, NH Land Use Office we have reviewed the following information, received by email on January 23, 2024, by Devine Millimet Attorneys at Law, for the referenced proposed Zoning Board Application:

- Application for Variance, Candia Tank Farm LLC, prepared by Devine Millimet Attorneys at Law and Fieldstone Land Consultants, PLLC, 79-page application and report, dated December 21, 2023

The project submission was reviewed for conformance with the Town of Candia Zoning Ordinances (Ordinances), as well as other applicable codes and standards, state and local rules and regulations and accepted engineering practices.

Based on our review of the submitted documents we offer the following comments for your consideration:

## PROJECT DESCRIPTION

The Application proposes the expansion of the existing fuel oil storage facility located at 5 High Street. The property is zoned as both Commercial (C) and Mixed Use (MX) zoning districts and was granted a variance for the existing fuel oil storage by the ZBA in 1992. The Application proposes to expand the existing facility by adding two (2) 30,000-gallon propane tanks, one (1) future 30,000-gallon propane tank, expansion of the fuel oil storage with additional fuel oil storage tanks and an accessory building for empty propane container storage.

1. The existing use on the subject parcel is a non-conforming legal use and is not permitted to be enlarged or extended, as specified in Ordinance 2.02B; the applicant is required to submit a waiver request, in addition to the waivers requests submitted with the application for Ordinance 2.02B to the ZBA for review and approval.
2. The Application proposes adding two (2) 30,000-gallon propane storage tanks and a future 30,000-gallon propane storage tank however, the ZBA waiver request should be limited to the proposed improvements, future improvements at a date to be determined, should be submitted under a

February 25, 2024

Ms. Judith Szot

Page 2 of 4

Reference: Candia Tank Farm 5 High Street – ZBA Application Review#1  
Candia Tax Map 409 Lot 228

separate future application and waiver request, if required. We defer to the Zoning Board on there determination on this matter.

3. The fire safety analysis that was performed and submitted with the Application was limited to the analysis of the proposed propane storage and is based on the requirements of NFPA 58 for flammable liquid storage, but no information is provided and no analysis has been submitted with the application regarding the proposed fuel oil tank storage to confirm conformance with NPFA 30. A fire safety analysis is required to be performed to confirm that sufficient fire protection and life safety measures are being proposed in as part of the Application for the fuel oil storage and the overall facility not just the proposed propane storage.
4. The Application proposes the installation of a 10,000-gallon fire cistern on the property but based on the requirement of NFPA for propane storage, however, the water supply of an onsite cistern is required to be based on the formula used by the NH State Fire Marshall's Office for the entire facility not just the proposed propane storage with a minimum supply consisting of a 30,000-gallon cistern, as specified in Regulation section 8.08.
5. The setback requirements between the existing / proposed fuel oil storage and the proposed propane storage tanks are based on the type of fuel oil stored, this information is required to be included in the fire analysis to confirm that adequate setback distances are provided between the two fuel types.
6. It is recommended that the fire safety analysis that is included as part of the Application be expanded to include the proposed alarm systems and that an analysis be performed regarding the potential extent of groundwater contamination in the event of a catastrophic failure of the existing and proposed fuel oil storage tanks and that provisions for proposed monitoring well installation be analyzed in conjunction with the proposed improvements.
7. The fire analysis references the existing adjacent fire pond, but no details have been submitted with the Application regarding the fire ponds capacity, condition, and confirmation that the volume capacity of the existing fire pond is sufficiently sized for the required sustained fire flows for the facility.
8. It is recommended that the fire analysis include the assessment of the adjacent properties and their associated uses to determine whether there is a potential risk for propane leak(s) mitigating to adjacent properties and an ignite from a potential ignition source.
9. The Application describes an allowable blast radius in the fire analysis for the proposed propane storage that is based on a vapor dispersion distance to low flammability level (LFL) and a 2-inch, 20-foot-long hose connection, which is based on a fueling truck connection; additional assessment should be performed and included in the fire analysis for the blast radius for a boiling liquid expanding vapor explosion (BLEVE) of the proposed propane storage tanks for review and for the record as part of the fire analysis and Application.
10. Form 6.7 of the fire analysis in the Application, indicates that guardrails will be provided for the proposed storage containers and the transfer station, but no details have been provided in the application for a proposed transfer station; the intent and all proposed improvements should be clearly listed in the Application.



February 25, 2024  
Ms. Judith Szot  
Page 3 of 4

Reference: Candia Tank Farm 5 High Street – ZBA Application Review#1  
Candia Tax Map 409 Lot 228

11. Form 6.7 of the fire analysis in the Application, indicates that no physical protection will be provided for the entry way into the facility; this is recommended to be reviewed and confirmed appropriate by the Town of Candia Emergency Management Director, Fire Chief and New Hampshire State Fire Marshall.
12. Form 8.2 of the fire analysis in the Application, describes the response times for local fire departments in adjacent communities but does not provide an assessment on whether the response times will allow for emergency protection measures to be implemented prior to potential impacts to adjacent properties. Additionally, given that the Candia Fire Department is a volunteer department, an analysis is also required to be performed regarding the response time for the Candia Fire Department and similarly whether that anticipated response time will allow for emergency protection measures to be implemented prior to potential impact to adjacent properties.
13. Table 9.1 of the fire analysis in the Application, describes suggested alternative methods for industrial and bulk propane storage that lack a water supply, but it is unclear if any of these measures are required or are being proposed in conjunction with the Application and the associated proposed improvements.
14. The Application describes six (6) legal criteria for authorizing a variance under RSA 674:33; based on the justifications described and the supporting information provided in the Application, we offer the following responses:
  - a. Variance criteria#1 the Application documents that: *the project poses no undue threat to health, safety, and the welfare of the public*, we take exception to this statement. Although proposed with mitigation measures, the proposed improvements pose an increased risk to both the environment and life safety to both the Town's municipal infrastructure and adjacent properties.
  - b. Variance criteria#2 the Application documents that: *'the spirit of the ordinance will be observed'*, but no documentation or analysis has been submitted with the Application to support this statement. Typically, the intent of a zoning ordinance restricting combustible and flammable storage facilities from being located within the municipal zoning district is to minimize the potential environmental and life safety impacts within a more densely populated area, locations of municipal buildings, commercial businesses, and schools. We defer to the Board regarding the specific intent of this ordinance.
  - c. Variance criteria#3 the Application documents that: *'the applicant already operates a fuel oil storage facility at the property (...) and that the use already exists'*. However, The Application includes the proposed addition of a new and separate flammable and explosive fuel to the current use, exposing the Town and adjacent properties, and residents to this new proposed risk.
  - d. Variance criteria#4 the Application documents that: *'the proposed use will not diminish the values of the surrounding properties'*; however, no documentation or analysis has been provided with the Application to support this statement.

February 25, 2024

Ms. Judith Szot

Page 4 of 4

Reference: Candia Tank Farm 5 High Street – ZBA Application Review#1  
Candia Tax Map 409 Lot 228

- e. Variance criteria#5 the Application documents that: *the enforcement of the Ordinance results in an unnecessary hardship because the special condition of the property distinguishes it from other properties in the area*; we take exception to this statement because the Ordinance has established the same limitations to adjacent properties.

- 15. In addition to obtaining input from the Fire Chief it is recommended that a draft emergency response procedure and plan be developed and submitted with the Application for review, with input from the Town of Candia Emergency Management Director.

These comprise our comments at this time. We invite the Applicant to meet with us to discuss these comments. We reserve the right to make future comments based on proposed revisions and additional submissions.

If you have any questions or need any additional information, please feel free to contact us.

Respectfully,

Stantec Consulting Services Inc.



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Bryan Ruoff PE  
Associate  
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Fax: 603 669 7636  
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Attachment: N/A

- c. Candia Zoning Board  
Amy Spencer, Town of Candia



14



**SAFETY DATA SHEET**  
**No. 2 Fuel Oil**

**1. IDENTIFICATION**

Product Identifier      No. 2 Fuel Oil

Synonyms:              No. 2 Heating Oil, #2 Fuel Oil, Heating Oil Plus™, Low Sulfur Heating Oil (LSHO), Ultra Low Sulfur Heating Oil (ULSHO)

Intended use of the product:      Fuel

Contact:                Global Companies LLC  
Water Mill Center  
800 South St.  
Waltham, MA 02454-9161  
[www.globalp.com](http://www.globalp.com)

Contact Information:      EMERGENCY TELEPHONE NUMBER (24 hrs.): CHEMTREC (800) 424-9300  
COMPANY CONTACT (business hours): 800-542-0778

**2. HAZARD IDENTIFICATION**

According to OSHA 29 CFR 1910.1200 HCS  
Classification of the Substance or Mixture  
Classification (GHS-US):

Flam. Liquid	Category 3	H226
Skin Corrosion/Irritation	Category 2	H315
Aspiration Hazard	Category 1	H304
Acute toxicity – Inhalation	Category 4	H332
STOT SE	Category 3	H336
Carcinogenicity	Category 2	H350
Aquatic Chronic	Category 2	H411
Eye damage/Irritation	Category 2	H319

Labeling Elements



Signal Word (GHS-US):  
Hazard Statements (GHS-US):

**Danger**  
H226 – Flammable liquid and vapor.  
H315 – Causes Skin irritation.  
H304 – May be fatal if swallowed and enters airways.  
H332 – Harmful if inhaled.  
H336 – May cause drowsiness or dizziness.  
H350 – May cause cancer.  
H411 – Toxic to aquatic life with long lasting effects.  
H319 – May cause eye damage/irritation.

Precautionary Statements (GHS-US):  
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P233 - Keep container tightly closed.  
P240 – Ground/bond container and receiving equipment.



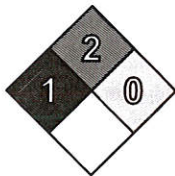


**SAFETY DATA SHEET**  
**No. 2 Fuel Oil**

P241 – Use explosion-proof electrical/ventilating/lighting equipment pursuant to applicable electrical code.  
P242 – Use only non-sparking tools.  
P243 – Take precautionary measures against static discharge.  
P261 – Avoid breathing dust/fume/gas/mist/vapors/spray.  
P264 – Wash skin thoroughly after handling.  
P271 – Use only outdoors or in a well-ventilated area.  
P273 – Avoid release to the environment.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P303+361+353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse with water/shower.  
P308+311 - If exposed or concerned: Get medical advice/attention.  
P301+310 - If swallowed: Immediately call a poison center/doctor/...  
P331 - Do NOT induce vomiting.  
P370+P378 – In case of fire use firefighting foam or other appropriate media for Class B fires to extinguish.  
P403+235 - Store in a well-ventilated place. Keep cool.  
P405 - Store locked up.  
P501 – Dispose of contents/container in accordance with local/regional/national/international regulation.

**Other information:**

NFPA 704  
Health: 1  
Fire: 2  
Reactivity: 0



**3. COMPOSITION / INFORMATION ON INGREDIENTS**

**Chemical Composition Information**

Mixture

Name	Product Identifier (CAS#)	% (w/w)	Classification
No. 2 Fuel Oil	68476-30-2	95-100	Flam Liq. 3, H226; Skin Irrit. 2, H315; Aspiration 1, H304; STOT SE 3, H336; Carc.2. H350; Aquatic chronic 2, H411
Methyl Esters	N/A	0-5	N/A
Naphthalene	91-20-3	0.1	Carc. 2, H351; Acute Tox. 4, H302; Aquatic Acute 1, H400; Aquatic Chronic 1, H411

**Additional Formulation Information:**

No. 2 Fuel Oil consists of C9+ hydrocarbons resulting from distillation of crude oil.

Low Sulfur Heating Oil typically contains less than 500 ppm of sulfur

Ultra Low Sulfur Heating Oil typically contains less than 15 ppm of sulfur





**SAFETY DATA SHEET**  
**No. 2 Fuel Oil**

**4. FIRST AID MEASURES**

Route	Measures
Inhalation	Remove person to fresh air. If person is not breathing, ensure an open airway and provide artificial respiration. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.
Ingestion	Aspiration Hazard: DO NOT INDUCE VOMITING. Do not give liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Ingestion may cause gastrointestinal disturbances including irritation, nausea, vomiting, and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory failure, and death.
Eye Contact	In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 min. Hold eyelids open to ensure adequate flushing. Seek medical attention. In case of contact lenses, remove immediately.
Skin Contact	Remove contaminated clothing and shoes. Wash contaminated areas thoroughly with soap and water or waterless hand cleanser. Obtain medical attention if irritation or redness develops. Thermal burns require immediate medical attention depending on the severity and of the area of the body burned.

**Most Important Symptoms**

Contact with eyes and face may cause irritation. Long-term exposure may cause dermatitis (itching, irritation, pain and swelling).

Inhalation may cause irritation and significant or long term exposure could cause respiratory insufficiency and pulmonary edema.

Ingestion may cause aspiration, gastrointestinal disturbance, and CNS effects.

**Immediate Medical Attention and Special Treatment**

For contact with skin or eyes, immediately wash or flush contaminated eyes with gently flowing water. If possible, irrigate each eye continuously with 0.9% saline (NS). If ingested, rinse mouth. Do NOT induce vomiting, as this may cause chemical pneumonia (fluid in the lungs).

If inhaled, administer oxygen or establish a patent airway if breathing is labored. Suction if necessary. Monitor closely, anticipate seizures. Consider orotracheal or nostracheal intubation of airway control if patient is unconscious or is in severe respiratory distress.

Discard any clothing or shoes contaminated as they may be flammable.

**5. FIRE-FIGHTING MEASURES**

**Extinguishing Media**

Foam, carbon dioxide, dry chemical are most suitable

SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, CO2, water spray, firefighting foam, or Halon. Small fires in the incipient (beginning) stage may typically be extinguished using handheld portable fire extinguishers and other firefighting equipment.

LARGE FIRES: Foam, carbon dioxide, dry chemical. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers.

**Specific Hazards / Products of Combustion**

Moderate fire hazard when exposed to heat or flame with a very low flash point. Product is flammable and easily ignited when exposed to heat, spark, open flame or other source of ignition. Flowing product may be ignited by self-generated static electricity. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

Combustion may produce smoke, carbon monoxide and other products of incomplete combustion.

**Special Precautions and Protective Equipment for Firefighters**

Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water.



## SAFETY DATA SHEET

### No. 2 Fuel Oil

For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied firefighting foam.

#### Fighting Equipment/Instructions

Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH- approved pressure-demand self-contained breathing apparatus with full face piece and protective clothing.

Refer to Section 9 for fire properties of this chemical including flash point, auto ignition temperature, and explosive limits.

## 6. ACCIDENTAL RELEASE MEASURES

ACTIVATE FACILITY SPCC, SPILL CONTINGENCY or EMERGENCY PLAN.

#### Personal Precautions

Due to high vapor density, flammable / toxic vapors may be present in low lying areas, dikes, pits, drains, or trenches. Vapors may accumulate in low lying areas and reach ignitable concentrations. Ventilate the area. Use of non-sparking tools and intrinsically safe equipment is recommended. Potential for flammable atmosphere should be monitored using a combustible gas indicator positioned downwind of the spill area. Refer to Sections 2 and 7 for further hazard warnings and handling instructions.

Use appropriate personal protective equipment to prevent eye/skin contact and absorption. Use NIOSH approved respiratory protection, if warranted, to prevent exposures above permissible limits. Refer to Section 8. Contaminated clothing should not be near sources of ignition.

#### Emergency Measures

As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Consider wind direction. Secure all ignition sources (flame, spark, hot work, hot metal, etc.) from area. Evaluate the direction of product travel, diking sewers, etc. to confirm spill areas. Do not touch or walk-through spilled material. For large spills, isolate initial action distance downwind 1,000 ft. (300 m).

#### Environmental Precautions

Stop the spill to prevent environmental release if it can be done safely. Product is toxic to aquatic life. Take action to isolate environmental receptors including drains, storm sewers and natural water bodies. Keep on impervious surface if at all possible. Use water sparingly to prevent product from spreading. Foam and absorbents may be used to reduce / prevent airborne release.

Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact.

Follow federal, state or local requirements for reporting environmental release where necessary. Refer to Section 15 for further information.

#### Containment and Clean-Up Methods

Carefully contain and stop the source of the spill, if safe to do so. Protect bodies of water by diking absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of firefighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection.

Take up with dry earth, sand or other non-combustible, inert oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container with clean, non-sparking tools for reclamation or disposal. Response and cleanup crews must be properly trained and must utilize proper protective equipment. Refer to Section 8 for appropriate protective equipment.

## 7. HANDLING AND STORAGE

USE ONLY AS A FUEL.  
DO NOT SIPHON BY MOUTH.

#### Handling Precautions

Handle as a flammable liquid. Keep away from heat, sparks, and open flame. No smoking. Electrical equipment should be approved for classified area. Bond and ground containers during product transfer pursuant to NFPA 70 and API RP 2003 to



20



**SAFETY DATA SHEET**  
**No. 2 Fuel Oil**

reduce the possibility of static-initiated fire or explosion. Follow precautions to prevent static initiated fire.

Use good personal hygiene practices. Use only with protective equipment specified in Section 8. Avoid repeated and/or prolonged skin exposure. Use only outdoors or in well ventilated areas. Wash hands before eating, drinking, smoking, or using toilet facilities. Do not use as a cleaning solvent on the skin. Do not use solvents or harsh abrasive skin cleaners for washing this product from exposed skin areas. Waterless hand cleaners are effective. Promptly remove contaminated clothing and launder before reuse. Use care when laundering to prevent the formation of flammable vapors which could ignite via washer or dryer. Consider the need to discard contaminated leather shoes and gloves. Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure.

Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil) is loaded into tanks previously containing low flash point products (such as this product) - see API RP 2003, "Protection Against Ignitions Arising Out Of Static, Lightning and Stray Currents."

**Storage**

Large quantities of fuel oil are stored in tanks or portable containers at an ambient storage temperature. Separate from incompatible chemicals (Refer to Section 10) by distance or secondary containment. Keep away from flame, sparks, excessive temperatures and open flame. Use approved vented containers that are clearly labeled. Label all secondary containers that this material is transferred into with the chemical name and associated hazard(s). **Empty product containers or vessels may contain flammable vapors.** Do not pressurize, cut, heat, weld **or expose such containers to sources of ignition.**

*They can become missiles during a fire*

Storage tanks should have a venting system. If stored in small containers, the area should be well ventilated, away from ignition sources and protected from potential damage or vehicular traffic. Post "No Smoking" signs in product storage areas. This storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code" or applicable building code. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks in Flammable and Combustible Liquid Service" and API RP 2015 "Safe Entry and Cleaning of Petroleum Storage Tanks".

**Incompatibles**

Keep away from strong oxidizers, ignition sources and heat.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Occupational Exposure Limits**

Component	CAS #	List	Value
No. 2 Fuel Oil	68476-30-2	ACGIH TLV-TWA	100 mg/m3*
Naphthalene	91-20-3	ACGIH TLV-TWA	10 ppm
		OSHA PEL	10 ppm
		ACGIH STEL	15 ppm

\*Critical effects; Skin; A3; CNS impairment.

**Engineering Controls**

Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces. Intrinsically safe equipment and non-sparking tools shall be used in circumstances where concentrations may exceed lower flammable limits. Grounding and bonding shall be used to prevent accumulation and discharge of static electricity. Emergency shower and eyewash should be provided in proximity to handling areas in the event of exposure to decontaminate.

**Personal Protective Equipment**

Exposure	Equipment
Eye / Face	Wear appropriate chemical protective glasses or goggles or face shields to prevent skin and eye contact especially caused from splashing.
Skin	Wear appropriate personal protective clothing to prevent skin contact. Gloves constructed of nitrile, neoprene or PVC are recommended when handling this material. Chemical protective clothing such as of E.I. DuPont TyChem®, Saranex® or equivalent recommended based on degree of exposure. Note: The resistance of specific material may vary from product to product as well as with degree of exposure.



## SAFETY DATA SHEET

### No. 2 Fuel Oil

Exposure	Equipment
Respiratory	<p>A NIOSH/MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited. Refer to OSHA 29 CFR 1910.134, ANSI Z88.2-1992, NIOSH Respirator Decision Logic, and the manufacturer for additional guidance on respiratory protection selection and limitations.</p> <p>Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.</p>
Thermal	Product is stored at ambient temperature. No thermal protection is required except for emergency operations involving actual or potential for fire. Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Property	Value
Appearance	Clear or straw-colored liquid dyed red for distribution
Odor	Mild petroleum distillate odor.
Odor Threshold	<1 ppm
pH	Not available
Melting Point	-15 °F (-26 °C)
Boiling Point Range	320 to 690 °F (160 to 366 °C)
Flash Point	>125.6 °F (52 °C) PMCC
Evaporation Rate	Slow, varies with conditions
Flammability	Flammable liquid
Flammable Limits	0.6 % - 7.5%
Vapor Pressure	0.009 psia @ 70 °F
Vapor Density	>1 (air=1)
Specific Gravity	0.81-0.88 @ 60 °F (16 °C) (water=1)
Solubility	Insoluble in water; miscible with other petroleum solvents.
Partition Coefficient (N-octanol/water)	Log Kow range of 3.3 to >.6.0
Autoignition Temperature	494 °F (257 °C)
Decomposition Temperature	When heated it emits acrid smoke and irritating vapors.
Viscosity	>3 cSt
Percent Volatiles	95-100

## 10. STABILITY AND REACTIVITY

### Stability

This is a stable material that is flammable liquid (OSHA/GHS hazard category 3). Stable during transport.

### Reactivity

Material is not self-reacting. Flammable concentrations may be present in air. Compound can react with oxidizing materials.



**SAFETY DATA SHEET**  
**No. 2 Fuel Oil**

**Possibility of Hazardous Reactions**  
Hazardous polymerization will not occur.

**Incompatibility**  
Keep away from strong oxidizers such as nitric and sulfuric acids.

**Conditions to Avoid**  
Avoid high temperatures, open flames, sparks, static electricity, welding, smoking and other ignition sources.

**Hazardous Decomposition Products**  
Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke).

**11. TOXICOLOGICAL INFORMATION**

**Acute Toxicity:**  
Acute Toxicity (Inhalation LC50)

No. 2 Fuel Oil (68476-30-2)  
LC50 Inhalation Rat >4.6 mg/l/4h

Acute Toxicity (Dermal LD50)

No. 2 Fuel Oil (68476-30-2)  
LD50 Dermal Rabbit >2000 mg/kg

Acute Toxicity (Oral LD50)

No. 2 Fuel Oil (68476-30-2)  
LD50 Oral Rat >12000 mg/kg

Acute Toxicity (Oral LD50)

Methyl Esters  
LD50 Oral Rat >14400 mg/kg

Skin Corrosion/Irritation: Prolonged and repeated contact may cause skin irritation leading to dermatitis. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are exposed repeatedly.

Serious Eye Damage/Irritation: Causes serious eye irritation.

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not available

Carcinogenicity: OSHA: NO, IARC: Group 3, NTP: NO, ACGIH: NOIC:A3, NIOSH: NO

IARC: Group 3 – Not classifiable as to their carcinogenicity to humans ACGIH: A3 – Confirmed animal carcinogen with unknown relevance to humans

Petroleum middle distillates have been shown to produce skin tumors in laboratory animals following repeated and prolonged exposures. The significance of this finding to human exposure has not been determined. Other studies with active skin carcinogens have shown that washing the animal's skin with soap and water between applications reduced tumor formation.

This product is similar to Diesel Fuel. IARC classifies whole diesel fuel exhaust particulates (byproduct of combustion of this material) carcinogenic to humans (Group 1) and NIOSH regards diesel fuel exhaust particulate as a potential occupational carcinogen.

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Specific Target Organ Toxicity (Single Exposure): Inhalation exposure may cause drowsiness or dizziness by inhalation exposure.

Aspiration Hazard: The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.





**SAFETY DATA SHEET**  
**No. 2 Fuel Oil**

Potential Health Effects: Vapor irritating to skin, eyes, nose, and throat. Ingestion may cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

WARNING: The burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

**12. ECOLOGICAL INFORMATION**

**Toxicity**

This material is expected to be toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment.

Data for Component: No. 2 Fuel Oil (68476-30-2)

Material is toxic to aquatic organisms based on an acute basis (LC50/EC50 >1 but ≤ 10 mg/L in the most sensitive species tested).

Material is a long-term aquatic hazard based on a chronic basis (LC50/EC50 >1 but ≤ 10 mg/L in the most sensitive species tested).

Persistence and Degradation: This material is not expected to be readily biodegradable.

Bioaccumulative Potential: Not available

Mobility in Soil: Not available

Other Adverse Effects: None known

Other Information: Avoid release to the environment.

**13. DISPOSAL CONSIDERATIONS**

Consult federal, state and local waste regulations to determine appropriate disposal options. May be considered a hazardous waste if disposed. Direct solid waste (landfill) or incineration at a solid waste facility is not permissible. Do not discharge to sanitary or storm sewer. Personnel handling waste containers should follow precautions provided in this document.

Shipping containers must be DOT authorized packages. Follow licensure and regulations for transport of hazardous material and hazardous waste as applicable.

**14. TRANSPORT INFORMATION**

**US DOT**

UN Identification Number	NA 1993
Proper Shipping Name	Fuel oil (No. 2)
Hazard Class and Packing Group	3, PGIII
Shipping Label	Combustible liquid
Placard / Bulk Package	Combustible liquid, 1993
Emergency Response Guidebook Guide Number	128

**IATA Information**

UN Identification Number	UN 1993
Proper Shipping Name	Fuel oil (No. 2)
Hazard Class and Packing Group	3, PGIII
ICAO Label	3
Packing Instructions Cargo	355
Max Quantity Per Package Cargo	220L
Packing Instructions Passenger	344Y
Max Quantity per Package	60L

24



**SAFETY DATA SHEET**  
**No. 2 Fuel Oil**

<b>ICAO</b>	
UN Identification Number	UN 1993
Shipping Name / Description	Fuel oil (No. 2)
Hazard Class and Packing Group	3, PG III
IMDG Label	3
<b>IMDG</b>	
UN Identification Number	UN 1993
Shipping Name / Description	Heating Oil, Light
Hazard Class and Packing Group	3, PGIII
IMDG Label	3
EmS Number	N/A
Marine Pollutant	Yes

**15. REGULATORY INFORMATION**

**U.S. Federal, State, and Local Regulatory Information**

Any spill or uncontrolled release of this product, including any substantial threat of release, may be subject to federal, state and/or local reporting requirements. This product and/or its constituents may also be subject to other federal, state, or local regulations; consult those regulations applicable to your facility/operation.

**OSHA Hazard Communication Standard**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning And Community Right-to-Know Act of 1986) Sections 311 and 312**

Immediate (Acute) Health Hazard	Yes
Delayed (Chronic) Health Hazard	Yes
Fire Hazard	Yes
Reactive Hazard	No
Sudden Release of Pressure Hazard	No

**Clean Water Act (Oil Spills)**

Any spill or release of this product to "navigable waters" (Essentially any surface water, including certain wetlands) or adjoining shorelines sufficient to cause a visible sheen or deposit of a sludge or emulsion must be reported immediately to the National Response Center (1-800-424-8802) or, if not practical, the U.S. Coast Guard with follow up to the National Response Center, as required by U.S. Federal Law. Also contact appropriate state and local regulatory agencies as required.

**CERCLA Section 103 and SARA Section 304 (Release to the Environment)**

The CERCLA definition of hazardous substances contains a "petroleum exclusion" clause which exempts this material. This product does not contain any chemicals subject to the reporting requirements of CERCLA Section 103 or SARA 304.

**SARA Section 313- Supplier Notification**

This product does not contain any chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372.

**EPA Notification (Oil Spills)**

If there is a discharge of more than 1,000-gallons of oil into or upon navigable waters of the United States, or if it is the second spill event of 42 gallons or more of oil into water within a twelve (12) month period, a written report must be submitted to the Regional Administrator of the EPA within sixty days of the event.

**Pennsylvania Right to Know Hazardous Substance list:**

The following product components are cited in the Pennsylvania Special Hazardous Substance List, and are present at levels which require reporting.

Component	CAS	Amount
No. 2 Fuel Oil	68476-30-2	100%



**SAFETY DATA SHEET**  
**No. 2 Fuel Oil**

**New Jersey Right to Know Hazardous Substance list:**

The following product components are cited in the New Jersey Right to Know Hazardous Substance List, and are present at levels which require reporting.

Component	CAS	Amount
No. 2 Fuel Oil	68476-30-2	100%

**California Proposition 65 WARNING: This product contains chemicals known to the State of California to cause Cancer or Reproductive Toxicity.**

Component	CAS	Amount
Naphthalene	91-20-3	<0.1%

**U.S. Toxic Substances Control Act**

All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30.

**CEPA - Domestic Substances List (DSL)**

All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

**Canadian Regulatory Information (WHMIS)**

Class B3 – Combustible Liquid

Class D2A – Materials causing other toxic effects. (Very Toxic)

**16. OTHER INFORMATION**

Version	4
Issue Date	May 20, 2016
Prior Issue Date	May 3, 2015

**Description of Revisions**

Revised to meet Globally Harmonized System for chemical hazard communication requirements pursuant to OSHA regulatory revisions 77 FR 17884, March 26, 2012.

**Abbreviations**

°F	Degrees Fahrenheit (temperature)	mL	Milliliter
<	Less than	mm <sup>2</sup>	Square millimeters
=	Equal to	mmHg	Millimeters of mercury (pressure)
>	Greater than	N/A	Not applicable
AP	Approximately	N/D	Not determined
C	Centigrade (temperature)	ppm	Parts per million
kg	Kilogram	sec	Second
L	Liter	ug	Micrograms
mg	Milligrams		

**Acronyms**

ACGIH	American Conference of Governmental Industrial Hygienists	CERCLA	Comprehensive Emergency Response, Compensation, and Liability Act
AIHA	American Industrial Hygiene Association	DOT	U.S. Department of Transportation
AL	Action Level	EC50	Ecological concentration 50%
ANSI	American National Standards Institute	EPA	U.S. Environmental Protection Agency
API	American Petroleum Institute	ERPG	Emergency Response Planning Guideline
CAS	Chemical Abstract Service	GHS	Global Harmonized System



26



**SAFETY DATA SHEET**  
**No. 2 Fuel Oil**

HMIS	Hazardous Materials Information System	REL	Recommended Exposure Limit (NIOSH)
IARC	International Agency for Research On Cancer	RVP	Reid Vapor Pressure
IATA	International Air Transport Association	SARA	Superfund Amendments and
IMDG	International Maritime Dangerous Goods	SCBA	Self Contained Breathing Apparatus
Koc	Soil Organic Carbon	SPCC	Spill Prevention, Control, and
LC50	Lethal concentration 50%		Countermeasures
LD50	Lethal dose 50%	STEL	Short Term Exposure Limit (generally 15
MSHA	Mine Safety and Health Administration		minutes)
NFPA	National Fire Protection Association	TLV	Threshold Limit Value (ACGIH)
NIOSH	National Institute of Occupational Safety and	TSCA	Toxic Substances Control Act
	Health	TWA	Time Weighted Average (8 hr.)
NOIC	Notice of Intended Change	UN	United Nations
NTP	National Toxicology Program	UNECE	United Nations Economic Commission for
OPA	Oil Pollution Act of 1990		Europe
OSHA	U.S. Occupational Safety & Health	WEEL	Workplace Environmental Exposure Level
	Administration		(AIHA)
PEL	Permissible Exposure Limit (OSHA)	WHMIS	Canadian Workplace Hazardous Materials
RCRA	Resource Conservation and Recovery Act		Information System
	Reauthorization Act of 1986 Title III		

**Disclaimer of Expressed and Implied Warranties**

Information presented herein has been compiled from sources considered to be dependable, and is accurate and reliable to the best of our knowledge and belief, but is not guaranteed to be so. Since conditions of use are beyond our control, we make no warranties, expressed or implied, except those that may be contained in our written contract of sale or acknowledgment.

Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material, even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in their use of the material.

**\*\* End of Safety Data Sheet \*\***



**SAFETY DATA SHEET**  
**Diesel Fuel**

**1. IDENTIFICATION**

Product Identifier Diesel Fuel

Synonyms: Diesel Fuel, Motor Vehicle Diesel Fuel, Dyed Diesel, \* DieselOne®, \* DieselOne® w/Platinum Plus DFX, Low Sulfur Diesel (LSD), Ultra Low Sulfur Diesel (ULSD)

Intended use of the product: Fuel

Contact: Global Companies LLC  
Water Mill Center  
800 South St.  
Waltham, MA 02454-9161  
[www.globalp.com](http://www.globalp.com)

Contact Information: EMERGENCY TELEPHONE NUMBER (24 hrs): CHEMTREC (800) 424-9300  
COMPANY CONTACT (business hours): 800-542-0778

**2. HAZARD IDENTIFICATION**

According to OSHA 29 CFR 1910.1200 HCS

Classification of the Substance or Mixture		
Classification (GHS-US):		
Flam. Liquid	Category 3	H226
Skin Corrosion/Irritation	Category 2	H315
Aspiration Hazard	Category 1	H304
STOT SE	Category 3	H336
Carcinogenicity	Category 2	H350
Aquatic Chronic	Category 2	H411
Serious Eye Damage/Irritation	Category 2B	H319

Labeling Elements



Signal Word (GHS-US):  
Hazard Statements (GHS-US):

**Danger**

H226 – Flammable liquid and vapor.

H315 – Causes Skin irritation.

H304 – May be fatal if swallowed and enters airways.

H336 – May cause drowsiness or dizziness.

H350 – May cause cancer.

H411 – Toxic to aquatic life with long lasting effects.

H319 – May cause eye damage/irritation.

Precautionary Statements (GHS-US):

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P233 - Keep container tightly closed.

P240 – Ground/bond container and receiving equipment.



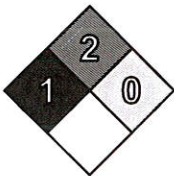


**SAFETY DATA SHEET**  
**Diesel Fuel**

P241 – Use explosion-proof electrical/ventilating/lighting equipment pursuant to applicable electrical code.  
P242 – Use only non-sparking tools.  
P243 – Take precautionary measures against static discharge.  
P261 – Avoid breathing dust/fume/gas/mist/vapors/spray.  
P264 – Wash skin thoroughly after handling.  
P271 – Use only outdoors or in a well-ventilated area.  
P273 – Avoid release to the environment.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P303+361+353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse with water/shower.  
P308+311 - If exposed or concerned: Get medical advice/attention.  
P301+310 - If swallowed: Immediately call a poison center/doctor/...  
P331 - Do NOT induce vomiting.  
P370+P378 – In case of fire use firefighting foam or other appropriate media for Class B fires to extinguish.  
P403+235 - Store in a well-ventilated place. Keep cool.  
P405 - Store locked up.  
P501 – Dispose of contents/container in accordance with local/regional/national/international regulation.

**Other information:**

NFPA 704  
Health: 1  
Fire: 2  
Reactivity: 0



**3. COMPOSITION / INFORMATION ON INGREDIENTS**

**Chemical Composition Information**

Mixture

Name	Product Identifier (CAS#)	% (w/w)	Classification
Diesel Fuel	68476-34-6	100	Flam Liq. 3, H226; Skin Irrit. 2, H315; Aspiration 1, H304; STOT SE 3, H336; Carc.2. H350; Aquatic chronic 2, H411
Naphthalene	91-20-3	<0.1	Carc. 2, H351; Acute Tox. 4, H302; Aquatic Acute 1, H400; Aquatic Chronic 1, H410

**Additional Formulation Information:**

Diesel Fuel consists of C9+ hydrocarbons resulting from distillation of crude oil.

Low Sulfur Diesel Fuel typically contains less than 500 ppm of sulfur

Ultra Low Sulfur Diesel Fuel typically contains less than 15 ppm of sulfur



**SAFETY DATA SHEET**  
**Diesel Fuel**

**4. FIRST AID MEASURES**

Route	Measures
Inhalation	Remove person to fresh air. If person is not breathing, ensure an open airway and provide artificial respiration. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.
Ingestion	Aspiration Hazard: DO NOT INDUCE VOMITING. Do not give liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Ingestion may cause gastrointestinal disturbances including irritation, nausea, vomiting, and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory failure, and death.
Eye Contact	In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 min. Hold eyelids open to ensure adequate flushing. Seek medical attention. In case of contact lenses, remove immediately.
Skin Contact	Remove contaminated clothing and shoes. Wash contaminated areas thoroughly with soap and water or waterless hand cleanser. Obtain medical attention if irritation or redness develops. Thermal burns require immediate medical attention depending on the severity and of the area of the body burned.

**Most Important Symptoms**

Contact with eyes and face may cause irritation. Long-term exposure may cause dermatitis (itching, irritation, pain and swelling).

Inhalation may cause irritation and significant or long term exposure could cause respiratory insufficiency and pulmonary edema.

Ingestion may cause aspiration, gastrointestinal disturbance, and CNS effects.

**Immediate Medical Attention and Special Treatment**

For contact with skin or eyes, immediately wash or flush contaminated eyes with gently flowing water. If possible, irrigate each eye continuously with 0.9% saline (NS). If ingested, rinse mouth. Do NOT induce vomiting, as this may cause chemical pneumonia (fluid in the lungs).

If inhaled, administer oxygen or establish a patent airway if breathing is labored. Suction if necessary. Monitor closely, anticipate seizures. Consider orotracheal or nostracheal intubation of airway control if patient is unconscious or is in severe respiratory distress.

Discard any clothing or shoes contaminated as they may be flammable.

**5. FIRE-FIGHTING MEASURES**

**Extinguishing Media**

Foam, carbon dioxide, dry chemical are most suitable

**SMALL FIRES:** Any extinguisher suitable for Class B fires, dry chemical, CO2, water spray, firefighting foam, or Halon. Small fires in the incipient (beginning) stage may typically be extinguished using handheld portable fire extinguishers and other firefighting equipment.

**LARGE FIRES:** Foam, carbon dioxide, dry chemical. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers.

**Specific Hazards / Products of Combustion**

Moderate fire hazard when exposed to heat or flame with a very low flash point. Product is flammable and easily ignited when exposed to heat, spark, open flame or other source of ignition. Flowing product may be ignited by self-generated static electricity. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

Combustion may produce smoke, carbon monoxide and other products of incomplete combustion.

**Special Precautions and Protective Equipment for Firefighters**

Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water.





**SAFETY DATA SHEET**  
**Diesel Fuel**

For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied firefighting foam.

*environmental  
damage*

**Fighting Equipment/Instructions**

Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH- approved pressure-demand self-contained breathing apparatus with full face piece and protective clothing.

Refer to Section 9 for fire properties of this chemical including flash point, auto ignition temperature, and explosive limits.

**6. ACCIDENTAL RELEASE MEASURES**

ACTIVATE FACILITY SPCC, SPILL CONTINGENCY or EMERGENCY PLAN.

**Personal Precautions**

Due to high vapor density, flammable / toxic vapors may be present in low lying areas, dikes, pits, drains, or trenches. Vapors may accumulate in low lying areas and reach ignitable concentrations. Ventilate the area. Use of non-sparking tools and intrinsically safe equipment is recommended. Potential for flammable atmosphere should be monitored using a combustible gas indicator positioned downwind of the spill area. Refer to Sections 2 and 7 for further hazard warnings and handling instructions.

Use appropriate personal protective equipment to prevent eye/skin contact and absorption. Use NIOSH approved respiratory protection, if warranted, to prevent exposures above permissible limits. Refer to Section 8. Contaminated clothing should not be near sources of ignition.

**Emergency Measures**

As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Consider wind direction. Secure all ignition sources (flame, spark, hot work, hot metal, etc.) from area. Evaluate the direction of product travel, diking sewers, etc. to confirm spill areas. Do not touch or walk-through spilled material. For large spills, isolate initial action distance downwind 1,000 ft. (300 m).

**Environmental Precautions**

Stop the spill to prevent environmental release if it can be done safely. Product is toxic to aquatic life. Take action to isolate environmental receptors including drains, storm sewers and natural water bodies. Keep on impervious surface if at all possible. Use water sparingly to prevent product from spreading. Foam and absorbents may be used to reduce / prevent airborne release.

Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact.

Follow federal, state or local requirements for reporting environmental release where necessary. Refer to Section 15 for further information.

**Containment and Clean-Up Methods**

Carefully contain and stop the source of the spill, if safe to do so. Protect bodies of water by diking absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of firefighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection.

Take up with dry earth, sand or other non-combustible, inert oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container with clean, non-sparking tools for reclamation or disposal. Response and cleanup crews must be properly trained and must utilize proper protective equipment. Refer to Section 8 for appropriate protective equipment.

**7. HANDLING AND STORAGE**

USE ONLY AS A FUEL.

DO NOT SIPHON BY MOUTH.

**Handling Precautions**

Handle as a flammable liquid. Keep away from heat, sparks, and open flame. No smoking. Electrical equipment should be approved for classified area. Bond and ground containers during product transfer pursuant to NFPA 70 and API RP 2003 to

*Applicant has cistern on property & plans to use pond across from Town Hall for fuel*





## SAFETY DATA SHEET

### Diesel Fuel

reduce the possibility of static-initiated fire or explosion. Follow precautions to prevent static initiated fire.

Use good personal hygiene practices. Use only with protective equipment specified in Section 8. Avoid repeated and/or prolonged skin exposure. Use only outdoors or in well ventilated areas. Wash hands before eating, drinking, smoking, or using toilet facilities. Do not use as a cleaning solvent on the skin. Do not use solvents or harsh abrasive skin cleaners for washing this product from exposed skin areas. Waterless hand cleaners are effective. Promptly remove contaminated clothing and launder before reuse. Use care when laundering to prevent the formation of flammable vapors which could ignite via washer or dryer. Consider the need to discard contaminated leather shoes and gloves. Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure.

Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil) is loaded into tanks previously containing low flash point products (such as this product) - see API RP 2003, "Protection Against Ignitions Arising Out Of Static, Lightning and Stray Currents."

#### Storage

Large quantities of diesel fuel are stored in tanks or portable containers at an ambient storage temperature. Separate from incompatible chemicals (Refer to Section 10) by distance or secondary containment. Keep away from flame, sparks, excessive temperatures and open flame. Use approved vented containers that are clearly labeled. Label all secondary containers that this material is transferred into with the chemical name and associated hazard(s). Empty product containers or vessels may contain flammable vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition.

Storage tanks should have a venting system. If stored in small containers, the area should be well ventilated, away from ignition sources and protected from potential damage or vehicular traffic. Post "No Smoking" signs in product storage areas. This storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code" or applicable building code. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks in Flammable and Combustible Liquid Service" and API RP 2015 "Safe Entry and Cleaning of Petroleum Storage Tanks".

#### Incompatibles

Keep away from strong oxidizers, ignition sources and heat.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### Occupational Exposure Limits

Component	CAS #	List	Value
Diesel Fuel	68476-34-6	ACGIH TLV-TWA	100 mg/m <sup>3</sup> *
Naphthalene	91-20-3	ACGIH TLV-TWA	10 ppm
		OSHA PEL	10 ppm
		ACGIH STEL	15 ppm

\*Critical effects; Skin; A3; CNS impairment.

#### Engineering Controls

Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces. Intrinsically safe equipment and non-sparking tools shall be used in circumstances where concentrations may exceed lower flammable limits. Grounding and bonding shall be used to prevent accumulation and discharge of static electricity. Emergency shower and eyewash should be provided in proximity to handling areas in the event of exposure to decontaminate.

#### Personal Protective Equipment

Exposure	Equipment
Eye / Face	Wear appropriate chemical protective glasses or goggles or face shields to prevent skin and eye contact especially caused from splashing.
Skin	Wear appropriate personal protective clothing to prevent skin contact. Gloves constructed of nitrile, neoprene or PVC are recommended when handling this material. Chemical protective clothing such as of E.I. DuPont TyChem®, Saranex® or equivalent recommended based on degree of exposure. Note: The resistance of specific material may vary from product to product as well as with degree of exposure.



## SAFETY DATA SHEET

### Diesel Fuel

Exposure	Equipment
Respiratory	A NIOSH/MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited. Refer to OSHA 29 CFR 1910.134, ANSI Z88.2-1992, NIOSH Respirator Decision Logic, and the manufacturer for additional guidance on respiratory protection selection and limitations.  Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.
Thermal	Product is stored at ambient temperature. No thermal protection is required except for emergency operations involving actual or potential for fire. Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Property	Value
Appearance	Clear or straw-colored liquid. May be dyed red for distribution.
Odor	Mild characteristic petroleum distillate odor.
Odor Threshold	<1 ppm
pH	Not available
Melting Point	-22 to -0.4 °F (-30 to -18 °C)
Boiling Point Range	320 to 690 °F (160 to 366 °C)
Flash Point	> 125.6 °F (52 °C) PMCC
Evaporation Rate	Slow, varies with conditions
Flammability	Flammable liquid
Flammable Limits	0.6 % - 6.5%
Vapor Pressure	0.009 psia @ 70 °F
Vapor Density	> 1 (air=1)
Specific Gravity	0.83-0.86 @ 60 °F (16 °C) (water=1)
Solubility	Insoluble in water; miscible with other petroleum solvents.
Partition Coefficient (N-octanol/water)	Log Kow range of 3.3 to >.6.0
Autoignition Temperature	494 °F (257 °C)
Decomposition Temperature	When heated it emits acrid smoke and irritating vapors.
Viscosity	>3 cSt
Percent Volatiles	100

## 10. STABILITY AND REACTIVITY

### Stability

This is a stable material that is flammable liquid (OSHA/GHS hazard category 3). Stable during transport.

### Reactivity

Material is not self-reacting. Flammable concentrations may be present in air. Compound can react with oxidizing materials.



## SAFETY DATA SHEET

### Diesel Fuel

#### Possibility of Hazardous Reactions

Hazardous polymerization will not occur.

#### Incompatibility

Keep away from strong oxidizers such as nitric and sulfuric acids.

#### Conditions to Avoid

Avoid high temperatures, open flames, sparks, static electricity, welding, smoking and other ignition sources.

#### Hazardous Decomposition Products

Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke).

## 11. TOXICOLOGICAL INFORMATION

#### Acute Toxicity:

##### Acute Toxicity (Inhalation LC50)

Diesel Fuel (68476-34-6)

LC50 Inhalation Rat >6 mg/l/4h

##### Acute Toxicity (Dermal LD50)

Diesel Fuel (68476-34-6)

LD50 Dermal Rabbit >5000 mg/kg

##### Acute Toxicity (Oral LD50)

Diesel Fuel (68476-34-6)

LD50 Oral Rabbit >5000 mg/kg

**Skin Corrosion/Irritation:** Prolonged and repeated contact may cause skin irritation leading to dermatitis. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are exposed repeatedly.

**Serious Eye Damage/Irritation:** Causes serious eye irritation.

**Respiratory or Skin Sensitization:** Not classified

**Germ/Cell Mutagenicity:** Not classified

**Teratogenicity:** Not available

**Carcinogenicity:** OSHA: NO, IARC: Group 3, NTP: NO, ACGIH: NOIC:A3, NIOSH: NO

IARC: Group 3 – Not classifiable as to their carcinogenicity to humans

ACGIH: A3 – Confirmed animal carcinogen with unknown relevance to humans.

Studies have shown that similar products produce skin tumors in laboratory animals following repeated applications without washing or removal. The significance of this finding to human exposure has not been determined. Other studies with active skin carcinogens have shown that washing the animal's skin with soap and water between applications reduced tumor formation.

IARC classifies whole diesel fuel exhaust particulates (byproduct of combustion of this material) carcinogenic to humans (Group 1) and NIOSH regards diesel fuel exhaust particulate as a potential occupational carcinogen.

**Reproductive Toxicity:** Not classified

**Specific Target Organ Toxicity (Repeated Exposure):** Not classified

**Specific Target Organ Toxicity (Single Exposure):** Inhalation exposure may cause drowsiness or dizziness by inhalation exposure.

**Aspiration Hazard:** The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.

**Potential Health Effects:** Vapor irritating to skin, eyes, nose, and throat. Ingestion may cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

**WARNING:** The burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of





**SAFETY DATA SHEET**  
**Diesel Fuel**

combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

**12. ECOLOGICAL INFORMATION**

**Toxicity:**  
This material is expected to be toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment.

Data for Component: Diesel Fuel (68476-34-6)

Material is toxic to aquatic organisms based on an acute basis (LC50/EC50 >1 but ≤ 10 mg/L in the most sensitive species tested).

Material is a long-term aquatic hazard based on a chronic basis (LC50/EC50 >1 but ≤ 10 mg/L in the most sensitive species tested).

Persistence and Degradation: This material is not expected to be readily biodegradable.

Bioaccumulative Potential: Not available

Mobility in Soil: Not available

Other Adverse Effects: None known

Other Information: Avoid release to the environment.

**13. DISPOSAL CONSIDERATIONS**

Consult federal, state and local waste regulations to determine appropriate disposal options. May be considered a hazardous waste if disposed. Direct solid waste (landfill) or incineration at a solid waste facility is not permissible. Do not discharge to sanitary or storm sewer. Personnel handling waste containers should follow precautions provided in this document.

Shipping containers must be DOT authorized packages. Follow licensure and regulations for transport of hazardous material and hazardous waste as applicable.

**14. TRANSPORT INFORMATION**

**US DOT**

UN Identification Number	NA 1993 / UN 1202
Proper Shipping Name	Diesel Fuel
Hazard Class and Packing Group	3, PGIII
Shipping Label	Combustible liquid
Placard / Bulk Package	Combustible liquid, 1993
Emergency Response Guidebook Guide Number	128

**IATA Information**

UN Identification Number	UN 1202
Proper Shipping Name	Combustible-Liquid, N.O.S. (Fuel, Diesel)
Hazard Class and Packing Group	3, PGIII
ICAO Label	3
Packing Instructions Cargo	310
Max Quantity Per Package Cargo	220L
Packing Instructions Passenger	309Y
Max Quantity per Package	60L

**ICAO**

UN Identification Number	UN 1202
Shipping Name / Description	Combustible-Liquid, N.O.S. (Fuel, Diesel)
Hazard Class and Packing Group	3, PG III
IMDG Label	3



**SAFETY DATA SHEET**  
**Diesel Fuel**

**IMDG**

UN Identification Number	UN 1202
Shipping Name / Description	Combustible-Liquid, N.O.S. (Fuel, Diesel)
Hazard Class and Packing Group	3, PGIII
IMDG Label	3
EmS Number	F-E-S-E
Marine Pollutant	Yes

**15. REGULATORY INFORMATION**

**U.S. Federal, State, and Local Regulatory Information**

Any spill or uncontrolled release of this product, including any substantial threat of release, may be subject to federal, state and/or local reporting requirements. This product and/or its constituents may also be subject to other federal, state, or local regulations; consult those regulations applicable to your facility/operation.

**OSHA Hazard Communication Standard**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning And Community Right-to-Know Act of 1986) Sections 311 and 312**

Immediate (Acute) Health Hazard	Yes
Delayed (Chronic) Health Hazard	Yes
Fire Hazard	Yes
Reactive Hazard	No
Sudden Release of Pressure Hazard	No

**Clean Water Act (Oil Spills)**

Any spill or release of this product to "navigable waters" (Essentially any surface water, including certain wetlands) or adjoining shorelines sufficient to cause a visible sheen or deposit of a sludge or emulsion must be reported immediately to the National Response Center (1-800-424-8802) or, if not practical, the U.S. Coast Guard with follow up to the National Response Center, as required by U.S. Federal Law. Also contact appropriate state and local regulatory agencies as required.

**CERCLA Section 103 and SARA Section 304 (Release to the Environment)**

The CERCLA definition of hazardous substances contains a "petroleum exclusion" clause which exempts this material. This product does not contain any chemicals subject to the reporting requirements of CERCLA Section 103 or SARA 304.

**SARA Section 313- Supplier Notification**

This product does not contain any chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372.

**EPA Notification (Oil Spills)**

If there is a discharge of more than 1,000-gallons of oil into or upon navigable waters of the United States, or if it is the second spill event of 42 gallons or more of oil into water within a twelve (12) month period, a written report must be submitted to the Regional Administrator of the EPA within sixty days of the event.

**Pennsylvania Right to Know Hazardous Substance list:**

The following product components are cited in the Pennsylvania Special Hazardous Substance List, and are present at levels which require reporting.

Component	CAS	Amount
Diesel Fuel	68476-34-6	100%

**New Jersey Right to Know Hazardous Substance list:**

The following product components are cited in the New Jersey Right to Know Hazardous Substance List, and are present at levels which require reporting.

Component	CAS	Amount
Diesel Fuel	68476-34-6	100%



**SAFETY DATA SHEET**  
**Diesel Fuel**

**California Proposition 65 WARNING:** This product contains chemicals known to the State of California to cause Cancer or Reproductive Toxicity.

Component	CAS	Amount
Naphthalene	91-20-3	<0.1%

**U.S. Toxic Substances Control Act**

All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30.

**CEPA - Domestic Substances List (DSL)**

All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

**Canadian Regulatory Information (WHMIS)**

Class B3 – Combustible Liquid  
Class D2A – Materials causing other toxic effects. (Very Toxic)

**16. OTHER INFORMATION**

Version	4
Issue Date	May 20, 2016
Prior Issue Date	May 3, 2015

**Description of Revisions**

Revised to meet Globally Harmonized System for chemical hazard communication requirements pursuant to OSHA regulatory revisions 77 FR 17884, March 26, 2012.

**Abbreviations**

*F	Degrees Fahrenheit (temperature)	mL	Milliliter
<	Less than	mm <sup>2</sup>	Square millimeters
=	Equal to	mmHg	Millimeters of mercury (pressure)
>	Greater than	N/A	Not applicable
AP	Approximately	N/D	Not determined
C	Centigrade (temperature)	ppm	Parts per million
kg	Kilogram	sec	Second
L	Liter	ug	Micrograms
mg	Milligrams		

**Acronyms**

ACGIH	American Conference of Governmental Industrial Hygienists	GHS	Global Harmonized System
AIHA	American Industrial Hygiene Association	HMIS	Hazardous Materials Information System
AL	Action Level	IARC	International Agency for Research On Cancer
ANSI	American National Standards Institute	IATA	International Air Transport Association
API	American Petroleum Institute	IMDG	International Maritime Dangerous Goods
CAS	Chemical Abstract Service	Koc	Soil Organic Carbon
CERCLA	Comprehensive Emergency Response, Compensation, and Liability Act	LC50	Lethal concentration 50%
DOT	U.S. Department of Transportation	LD50	Lethal dose 50%
EC50	Ecological concentration 50%	MSHA	Mine Safety and Health Administration
EPA	U.S. Environmental Protection Agency	NFPA	National Fire Protection Association
ERPG	Emergency Response Planning Guideline	NIOSH	National Institute of Occupational Safety and Health
		NOIC	Notice of Intended Change





**SAFETY DATA SHEET**  
**Diesel Fuel**

NTP	National Toxicology Program	STEL	Short Term Exposure Limit (generally 15 minutes)
OPA	Oil Pollution Act of 1990	TLV	Threshold Limit Value (ACGIH)
OSHA	U.S. Occupational Safety & Health Administration	TSCA	Toxic Substances Control Act
PEL	Permissible Exposure Limit (OSHA)	TWA	Time Weighted Average (8 hr.)
RCRA	Resource Conservation and Recovery Act Reauthorization Act of 1986 Title III	UN	United Nations
REL	Recommended Exposure Limit (NIOSH)	UNECE	United Nations Economic Commission for Europe
RVP	Reid Vapor Pressure	WEEL	Workplace Environmental Exposure Level (AIHA)
SARA	Superfund Amendments and	WHMIS	Canadian Workplace Hazardous Materials Information System
SCBA	Self Contained Breathing Apparatus		
SPCC	Spill Prevention, Control, and Countermeasures		

**Disclaimer of Expressed and Implied Warranties**

Information presented herein has been compiled from sources considered to be dependable, and is accurate and reliable to the best of our knowledge and belief, but is not guaranteed to be so. Since conditions of use are beyond our control, we make no warranties, expressed or implied, except those that may be contained in our written contract of sale or acknowledgment.

Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material, even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in their use of the material.

**\*\* End of Safety Data Sheet \*\***

## WEB ENGINEERING ASSOCIATES, INC.

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SCITUATE, MASSACHUSETTS 02066  
1-781-844-8323

March 21, 2024

Jeffrey Wenzel  
Rick Wenzel Oil  
6 Hillside Avenue  
Amherst, NH

**RE: Rick Wenzel Oil Fire Safety Addendum  
Proposed Candia Oil and Propane Storage Facility  
5 High Street, Candia, NH**

Dear Mr. Wenzel:

This document represents an addendum to Web Engineering's Propane Fire Safety Analysis dated November 5, 2023 for the proposed propane storage facility referenced above. It specifically addresses Comment Nos. 5, 8, 10, 12, and 13 in Stantec's 3<sup>rd</sup> party engineering review letter dated February 25, 2024. Comment Nos. 3 and 6 were addressed in Web Engineering's Fire Safety Analysis relative to the Oil Storage Facility. Comment 9 is addressed in a letter from Mr. Ted Lemoff, PE, former member of the NFPA 58 technical review committee (see attached). The remaining comments were addressed in a separate documentation prepared by Attorney Christopher Swiniarski.

### COMMENT NO. 5 – SETBACK BETWEEN PROPANE AND OIL

Item No. 5 of the Stantec letter addresses whether the setback between the propane tanks and the oil tanks is suitable for the type of liquid being stored. Paragraph 6.4.4.6 of NFPA 58 states that *"The minimum horizontal separation between aboveground LP-Gas containers and aboveground tanks containing liquids having flash points below 200°F shall be 20 feet"*. No. 2 fuel oil and diesel fuel will be stored in the aboveground oil storage tanks. These products have flash points between 125° F and 140° F, which are well below 200°F. The 20-foot setback therefore applies. The actual distance between the propane and oil storage facilities will be 50+ feet.

### COMMENT NO. 8 – IGNITION AT ADJACENT PROPERTIES

Item No. 8 recommends that the propane fire safety analysis include an assessment of the adjacent properties and their associated uses to determine whether there is a potential risk of a propane leak(s) migrating to adjacent properties and igniting from a potential ignition source.

To address this, Rick Wenzel Oil enlisted the services of Mr. Ted Lemoff, P.E. Mr. Lemoff's report and resume are included with this propane Fire Safety Analysis addendum. Mr. Lemoff



spent 35 years working for NFPA as a member of the technical committee that reviewed and revised NFPA 58. Mr. Lemoff authored nine editions of the NFPA 58 Handbook. He currently serves on the committee as a “special expert” with no affiliation to the propane industry, insurance, code users, or other interest category. Since retiring from NFPA in 2010, Mr. Lemoff has continued to provide consulting services as a propane safety expert.

In response to Comment No. 8, Mr. Lemoff writes: “*the Vapor Dispersion Model included in the Fire Safety Analysis incorporates the dilution of released propane as it mixes with air. The maximum distance determined is for a lower flammable limit mixture of propane in air. At greater distances the propane-air mixture has gone below the lower flammable limit of propane in air.*”

Considering the distances to abutting structures, it can be concluded that propane vapors would not be sufficiently concentrated to support ignition at the vapor dispersion distances provided in the fire safety analysis. In this respect, the hazard distances in the Fire Safety Analysis are based on conservative models. Mr. Lemoff’s full report is included with this addendum.

COMMENT NO. 10 – GUARD RAILS

Comment No. 10 addresses the absence of traffic protection at the proposed transfer area. The only transfers that will take place at the facility involve loading of bobtail trucks for offsite delivery and offloading from transport trucks into the propane tanks to replenish inventory.

As shown on the plans associated with the fire safety analysis, the equipment associated with the truck transfers is surrounded by traffic protection. Transport trucks and bobtail trucks must maneuver into position to access the transfer equipment. Rather, traffic protection is in place to protect the transfer equipment from these trucks while they are maneuvering into position.

COMMENT NO. 12 – CANDIA FIRE DEPARTMENT RESPONSE TIMES

Comment No. 12 requests response times for the Candia Fire Department. The Candia Fire Department Chief stated that the response time would vary between daytime and nighttime. Daytime response following first alarm could be as quick as one minute. During evening hours when there are no responding personnel on duty, the response time following first alarm would be closer to 10 minutes.

How many men would respond?

COMMENT NO. 13 – ALTERNATIVE METHODS

Comment No. 13 addresses the alternative methods for industrial and bulk propane storage that lack a water supply that are provided in Table 9.1. Stantec believed that it was unclear if any of these measures are required or are being proposed.

While the Candia Fire Department Chief has confirmed that the on-site cistern and nearby fire pond are more than adequate, Rick Wenzel Oil is voluntarily proposing the additional redundant measures that are not otherwise required. These measures are shown in the following table:



**ITEMS FROM TABLE 9.1 OF THE FIRE SAFETY ANALYSIS THAT WILL BE IMPLEMENTED**

<b>Item #</b>	<b>Options that will be implemented</b>
1	Reduce the service life of hoses. <b>Typically done every 5 years. Will do it every 3 years or sooner if monthly inspection determines excessive scuffing or wear has occurred.</b>
2	Increase frequency of equipment inspection. – <b>Typically done annually. Will do it monthly in conjunction with the SPCC plan and annually as recommended by NPGA.</b>
3	Establish a service life program for the maintenance of the container pressure relief devices. This could include the installation of a listed multiple port valve and certifying that the relief devices are properly set and maintained <b>every 10 years.</b>
4	Increase the strength of the piping and fitting systems. <b>All liquid piping will be flanged and welded. Where equipment requires threaded, piping will be schedule 80.</b>
5	Install emergency shutoff valves in conjunction with container internal valves. – <b>Already incorporated into the design</b>
6	Install emergency shutoff valves downstream of transfer pump outlets, and upstream of the vapor and liquid valves at the bulkhead. <b>Already incorporated into the design</b>
7	Install pneumatic tubing along the plant boundary to serve as a perimeter fire detection system. This would provide protection of the plant against exposure fires. <b>Pneumatic tubing along the chain link fence will be incorporated into the design.</b>
9	Increase the separation distances of internal plant exposures to the container. These exposures would include a site dumpster, idle or waste pallets and combustibles, and increasing the parking distances between the bobtails and transports in relation to the container. <b>Already incorporated into the design (note that distance to oil tanks is 2.5 times the required distance)</b>
10	Relocate overhead power lines away from all container and cylinder storage areas to protect against ignition in the event of a line dropping due to wind or power pole impact. <b>All power conduits will be underground.</b>
11	Eliminate all combustible vegetation within 30 feet of the LP-Gas container. This can be accomplished using gravel, or paving the site yard. <b>Already incorporated into the design</b>

We trust that the above report satisfies your requirements. If you have any questions, please call.

Very truly yours,  
Web Engineering Associates, Inc.



Robert P. Coluccio, PE  
Vice President

Enc.: Report by Ted Lemoff, PE